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*Attorneys for Plaintiffs*

**UNITED STATES DISTRICT COURT  
 NORTHERN DISTRICT OF CALIFORNIA**

CHASOM BROWN, WILLIAM BYATT,  
 JEREMY DAVIS, CHRISTOPHER  
 CASTILLO, and MONIQUE TRUJILLO  
 individually and on behalf of all other similarly  
 situated,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

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Case No.: 4:20-cv-03664-YGR-SVK

**DECLARATION OF CHRISTOPHER  
 THOMPSON IN SUPPORT OF  
 PLAINTIFFS' UNOPPOSED MOTION  
 FOR FINAL APPROVAL OF CLASS  
 ACTION SETTLEMENT**

Judge: Hon. Yvonne Gonzalez Rogers  
 Date: July 30, 2024  
 Time: 2:00 p.m.  
 Location: Courtroom 1 – 4th Floor

**DECLARATION OF CHRISTOPHER THOMPSON**

I, Christopher Thompson, declare as follows.

**Background**

1. Counsel for the Brown Plaintiffs retained me to provide technical analysis and testimony in connection with the Plaintiffs' Unopposed Motion for Final Approval of Class Action Settlement (the "Motion"), including in support of the various technical assertions made with regard to data deletion and remediation.

2. All of the statements in this declaration are true based on my analysis and personal knowledge, and, if the Court permits it, I am available and willing to testify on these matters during the upcoming hearing on the Motion.

3. A copy of my CV is attached as Exhibit A. As reflected in my CV, I majored in Computer Engineering and have many years of experience in computing technology. I am being compensated at a rate of \$275 per hour for my work in connection with this matter, and none of my compensation is contingent on the outcome of this litigation.

4. As a result of my work on this case, I have become familiar with Google's data collection and storage practices. Since the inception of this litigation, I have personally worked on the data collection from the data sources at issue in the case, in coordination with Plaintiffs' counsel. I previously provided three expert technical declarations and statements to this Court for this case, which have been filed at Dkt. 535-18 (April 11, 2022), Dkt. 834-2 (January 20, 2023), and Dkt. 656-1 (August 4, 2022). Each declaration relates to Plaintiffs' efforts to seek discovery on Google's data collection, structure, and storage practices.

5. Magistrate Judge Susan van Keulen allowed me to testify as a technical expert at the April 21, 2022 hearing on Plaintiffs' Request for an Order to Show Cause.

**Data Sources Identified by the Special Master**

6. I was personally involved in effectively all of Plaintiffs' efforts to discover information about Google's data collection, data storage, and data structure. I consulted on all of

1 the discovery disputes relating to these issues, including many of Plaintiffs' 30 motions to compel  
2 and all of the discovery issues resolved before Special Master Douglas Brush.

3 7. On or about April 4, 2022, Special Master Brush recommended that the Court  
4 order Google to preserve data sources that had been identified as relevant to this case. I  
5 understand that Special Master Brush's Report and Recommendation was filed as Dkt. 524. On  
6 or about May 20, 2022, Magistrate Judge van Keulen issued a Preservation Order, adopting  
7 Special Master Brush's recommendations in part. I understand that the Preservation Order was  
8 filed as Dkt. 587. A true and correct copy of the Preservation Order is also attached hereto as  
9 Exhibit B.

10 **Data Deletion and Remediation Methodology**

11 8. In negotiating Google's obligations under the settlement to delete and remediate  
12 data, we targeted the list of all "signed out (of Google)" data sources which were identified by  
13 Google and the Special Master. We targeted these data sources because Plaintiffs' case is focused  
14 on private browsing while signed out of Google. Dkt. 886 (Fourth Amended Complaint) ¶ 192  
15 (class definitions).

16 9. For each data source, Plaintiffs tailored Google's data deletion and remediation  
17 obligations under the settlement to the applicable retention period. First, Google and the Special  
18 Master identified more than [REDACTED] short-term logs with a data retention period less than nine months.  
19 Plaintiffs addressed these data sources by immediate changes to Google's disclosures. As part of  
20 the settlement, Google agreed to amend its disclosures immediately after signing the Term Sheet  
21 in December 2023, rather than waiting until finalization and judicial approval of the long-form  
22 settlement agreement. Plaintiffs estimated that finalization and judicial approval of the settlement  
23 agreement will likely take seven to nine months. At the time of final approval, these short-term  
24 logs will be mitigated because they should include only data from after the disclosures were  
25 changed. A true and correct copy of all of these affected short-term logs is listed in the attached  
26 spreadsheet that I compiled, attached as Exhibit C.

1           10. Other data sources have a data retention period longer than nine months, and will  
2 therefore contain contaminated private browsing data pre-dating disclosure changes at the time  
3 of the final approval hearing. Under the terms of the settlement, Google is required to either  
4 delete or remediate the data within each and every one of these sources. Plaintiffs' success in  
5 securing Google's agreement to delete or remediate the data in these sources is particularly  
6 remarkable because Google had argued that remediation of private browsing data was  
7 impossible. According to Google, private browsing data made up only a small percentage of the  
8 total data logged. Google also claimed to be unable to accurately identify private browsing data  
9 within the data sources. Google's agreement to remediate all data in these data sources solves the  
10 alleged problem regarding the amount or identifiability of private browsing data. This is  
11 evidenced in the settlement agreement submitted as Exhibit 1 to the Declaration of Mark C. Mao  
12 ("Mao Decl.").

13           11. There are [REDACTED] Google Ads data sources with a retention period longer than nine-  
14 months. For these logs, the settlement agreement requires Google to redact and generalize the IP  
15 address and user agent strings, which makes identification more difficult. As Plaintiffs' expert  
16 Mr. Jonathan Hochman explained, Plaintiffs main theory of reidentification was through the use  
17 of IP addresses and user agent strings. Dkt. 643-8 (Hochman Rep.) ¶ 105. In addition, the  
18 settlement provides increased privacy by requiring Google to redact the full address and  
19 subfolders of the full URL associated with each record, so that only the general domain is  
20 available (with the IP address and user agent string redacted). These logs are listed in Exhibit B  
21 in the Settlement Agreement (Mao Decl., Ex. 1). These same logs are also listed in the attached  
22 spreadsheet that I compiled, attached as Exhibit C.

23           12. There is [REDACTED] remaining Google Analytics data log source with a retention period  
24 longer than nine months. As a result of Plaintiffs' efforts, the data in this log will also be  
25 remediated. Plaintiffs obtained assurances from Google that it would not use this data to  
26 reidentify users, that Google will be retiring services that use this log by July 2024, and that  
27 Google expects to delete all of the data by the end of 2024, as agreed in Exhibit C of the settlement  
28

1 agreement. In part as a result of Plaintiffs' claims, Google also stopped saving IP addresses in  
 2 Google Analytics log sources in 2022.<sup>1</sup> I included this log in the spreadsheet attached as Exhibit  
 3 C.

4 13. The Preservation Order includes [REDACTED] additional data sources with a retention  
 5 period longer than nine months: [REDACTED] and [REDACTED]. These sources had a retention period  
 6 between [REDACTED]. I concluded that, as a result of privacy changes that Plaintiffs  
 7 helped bring about in late 2020, these data sources do not need further remediation. In particular,  
 8 Google implemented "Chromeguard," which is the button on the Chrome Incognito-mode Splash  
 9 Screen that by default prevents Google's use of third-party cookies during Incognito browsing.  
 10 As confirmed by discovery, the two aforementioned [REDACTED] data sources are part of a structured  
 11 database that keys and stores data using certain Google third-party cookies, which are called  
 12 [REDACTED]. Since late 2020, Chromeguard has blocked these cookies by default. Without Google  
 13 [REDACTED] as a database key, my understanding is that the two logs should not have any significant  
 14 amount of private browsing data. *See* Dkt. 643-8 (Hochman Rep.) ¶ 170 (explaining how the  
 15 [REDACTED] sources are keyed and stored). Since the retention periods for these two sources are only up  
 16 to 540 days, Chromeguard should have already mostly mitigated the two [REDACTED] sources as of 2024.  
 17 For the sake of completeness, I also included these two data sources in the spreadsheet attached  
 18 as Exhibit C.

19 14. These same deletion and remediation efforts discussed above also apply to non-  
 20 Incognito private browsing data (Class 2).

21 15. Through this settlement, Plaintiffs have addressed every relevant and identifiable  
 22 Google data source I am aware of. We checked the above methodology against not only the data  
 23 sources identified by the Special Master, but also the relevant data sources we independently  
 24 uncovered and had Google identify during discovery and the sanctions proceedings. The  
 25 spreadsheet attached as Exhibit C has been checked against all of the Google data sources

26  
 27 <sup>1</sup> See Russell Ketchum, *Prepare for the future with Google Analytics 4*, Mar. 16, 2022,  
 28 available at: <https://blog.google/products/marketingplatform/analytics/prepare-for-future-with-google-analytics-4/>.

1 Plaintiffs uncovered during discovery from Google specifications, and what was ordered by the  
2 Special Master and Magistrate Judge van Keulen. Plaintiffs have addressed each known and  
3 identified source except for those that are not part of Plaintiffs' current case (e.g., "signed in (to  
4 Google)" data sources identified by the Special Master, and/or in connection with *Calhoun v.*  
5 *Google*). Although it is possible that Google hid other data sources during discovery and the  
6 sanctions process, Plaintiffs remediated private browsing data from every relevant data source  
7 actually identified by Google in discovery and by motion practice in this case, for every single  
8 class member.

9 16. I declare under penalty of perjury under the laws of the United States of America  
10 that the foregoing is true and correct. Executed this 1st day of April, 2024, at Nolensville,  
11 Tennessee.

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13 /s/ Christopher Thompson  
14 Christopher Thompson  
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